

REMARKS

Claim 3 in the clean version has been amended to correct a minor error, namely that the claim number was inadvertently omitted in the previous amendment. Applicant noted this typographical error in the clean form of the claims and resubmit this amendment in light of that oversight. Claims 1-10 are presently pending in this application for consideration.

The amendments to the present application are made to place the application in better form and to place the application in condition for allowance. No new matter has been added. Entry and consideration of these amendments prior to the first Office Action are respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at Los Angeles, California telephone number (213) 337-6742 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

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Version with markings to show changes made:

IN THE SPECIFICATION

Please amend the paragraph on page 4, starting at line 2 as follows:

According to a first aspect of the present invention, there is provided a method for driving a solid state imaging device including a plurality of vertical shift registers each for vertically transferring information charges accumulated in a plurality of light receiving pixels arranged in a matrix, and a horizontal shift register for horizontally transferring information charges vertically transferred and received in line units. [, in which the] The information charges are independently vertically transferred from light receiving pixels in an odd line and from light receiving pixels in an even line.

Please amend the paragraph on page 4, starting at line 12 and ending on page 5, line 17 as follows:

This method [comprises] includes an accumulation step of accumulating the information charges generated in the plurality of light receiving pixels during a first period in portions of vertical shift registers corresponding to each odd line and in portions of vertical shift registers corresponding to each even line[;] and a first compounding step of vertically transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line to the portions of vertical shift registers corresponding to each adjacent even line, of compounding the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges accumulated in the portions of vertical shift registers corresponding to each adjacent even line, and of holding resultant information charges in the portions of vertical shift registers corresponding to each even line[;].

The method also includes and additional accumulation step of accumulating information charges generated in a light receiving pixel in each

odd line during a second period in the portions of vertical shift registers corresponding to each odd line, and of accumulating information charges generated in a light receiving pixel in each even line during the second period in the portions of vertical shift registers corresponding to each even line in addition to the information charges that are already accumulated therein[;] and a second compounding step of transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line and the information charges accumulated in the portions of vertical shift registers corresponding to each even line to the horizontal shift register, and of compounding in the horizontal shift register the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges originated from the portions of vertical shift registers corresponding to each even line[; and a]. The method further includes a step of driving the horizontal shift register after the second compounding step to obtain an information output of the solid state imaging device.

Please amend the paragraph on page 8, starting at line 9 as follows:

According to a second aspect of the present invention, there is provided a method for driving a solid state imaging device including a plurality of vertical shift registers each for vertically transferring information charges accumulated in a plurality of light receiving pixels arranged in matrix, and a horizontal shift register for horizontally transferring the information charges vertically transferred and received in line units [, in which the]. The information charges are independently vertically transferred from light receiving pixels in an odd line and from light receiving pixels in an even line.

Please amend the paragraph on page 8, starting at line 19 and ending on page 9, line 3 as follows:

This method [comprises] includes an imaging step of accumulating, only during a first period, the information charges generated in the light receiving pixels in each odd line and of accumulating during a second period the information charges generated in the light receiving pixels in each even line, the second period being shorter than the first period, and a compounding step of vertically transferring the information charges accumulated in the light receiving pixels in each odd line and the information charges accumulated in the light receiving pixels in each even line to the horizontal shift register after the imaging step [, and of]. The method also includes compounding the information charges originated from the light receiving pixels in each odd line with the information charges originated from the light receiving pixels in each even line.

Please amend the paragraph on page 10, starting at line 25 as follows:

The above and other [objects,] features [,] and advantages of the present invention will become further apparent from the following description of the preferred embodiment taken in conjunction with the accompanying drawings wherein:

IN THE CLAIMS:

Please amend the claims as indicated below:

1. (Once Amended) A method for driving a solid state imaging device [including a plurality of vertical shift registers each for vertically transferring information charges accumulated in a plurality of light receiving pixels arranged in matrix, and a horizontal shift register for horizontally transferring information charges vertically transferred and received in line units, in which the information charges are independently vertically

transferred from light receiving pixels in an odd line and from light receiving pixels in an even line, the method] comprising:

[an accumulation step of] accumulating information charges generated in [the] a plurality of light receiving pixels during a first period in portions of vertical shift registers corresponding to each odd line and in portions of vertical shift registers corresponding to each even line;

[a first compounding step of] vertically transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line to the portions of vertical shift registers corresponding to each adjacent even line, compounding the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges accumulated in the portions of vertical shift registers corresponding to each adjacent even line, and holding resultant information charges in the portions of vertical shift registers corresponding to each even line;

[an additional accumulation step of] accumulating information charges generated in a light receiving pixel in each odd line during a second period in the portions of vertical shift registers corresponding to each odd line, and of accumulating information charges generated in a light receiving pixel in each even line during the second period in the portions of vertical shift registers corresponding to each even line in addition to the information charges that are already accumulated therein;

[a second compounding step of] transferring the information charges accumulated in the portions of vertical shift registers corresponding to each odd line and the information charges accumulated in the portions of vertical shift registers corresponding to each even line to [the] a horizontal shift register, and compounding in the horizontal shift register the information charges originated from the portions of vertical shift registers corresponding to each odd line into the information charges originated from the portions of vertical shift registers corresponding to each even line; and

[a step of] driving the horizontal shift register after [the second compounding step] compounding in the horizontal shift register to obtain an information output of the solid state imaging device.

2. (Once Amended) [A] The driving method according to claim 1, [wherein

the second period is determined] further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

3. (Once Amended) [A] The driving method according to claim 1, [wherein

the second period is determined] further comprising determining a second period such that the amount of information charges generated in a light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.

4. (Once Amended) A method for driving a solid state imaging device [including a plurality of vertical shift registers each for vertically transferring information charges accumulated in a plurality of light receiving pixels arranged in matrix, and a horizontal shift register for horizontally transferring information charges vertically transferred and received in line units of line, in which the information charges are independently vertically transferred from light receiving pixels in an odd line and from light receiving pixels in an even line, the method] comprising:

[an imaging step of] accumulating during a first period [the] information charges generated in [the] light receiving pixels in each odd line and of accumulating during a second period [the] information charges

generated in the light receiving pixels in each even line, the second period being shorter than the first period; [and]

[a compounding step of] vertically transferring the information charges accumulated in the light receiving pixels in each odd line and the information charged accumulated in the light receiving pixels in each even line to [the] a horizontal shift register after [the imaging step,] accumulating and [of] compounding the information charges originating from the light receiving pixels in each odd line with the information charges originating from the light receiving pixels in each even line; and

[a step of] driving the horizontal shift register after [the compounding step] compounding to obtain an information output of the solid state imaging device.

5. (Once Amended) [A] The driving method according to claim 4, [wherein the second period is determined] further comprising determining a second period such that the amount of information charges generated in each of the plurality of light receiving pixels during the second period is equal to or less than the charge storage capacity of the light receiving pixels.

6. (Once Amended) [A] The driving method according to claim 4, [wherein the second period is determined] further comprising determining a second period such that the amount of information charges generated in light receiving pixel corresponding to a maximum luminance portion of an object during the second period falls within a predetermined range relative to the charge storage capacity of the light receiving pixel.